CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94-025

UPDATED WASTE DISCHARGE REQUIREMENTS FOR:

INTERNATIONAL DISPOSAL CORPORATION OF CALIFORNIA
BROWNING-FERRIS INDUSTRIES
NEWBY ISLAND CLASS III LANDFILL
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

International Disposal Corporation of California (IDC), a wholly owned subsidiary of Browning-Ferris Industries of California, Inc. (BFI), the site legal owners and the landfill operators, (hereinafter referred to collectively as the discharger) by application dated October 1, 1992 has applied for revision of their current Waste Discharge Requirements (WDR's), for the continued operation of the Newby Island Class III landfill on 342 acres in north San Jose in Santa Clara County. The site location and vicinity map are shown on Figures 1 and 2, which are incorporated herein and made a part of this Order, is located at the western end of Dixon Landing Road in North San Jose, Santa Clara County.

PURPOSE OF UPDATE ORDER:

1. In October, 1992, the discharger submitted a Revised Report of Waste Discharge (ROWD) as requested by this Board. This order primarily updates the groundwater monitoring and leachate management programs and establishes a set of construction specifications and requirements for the Leachate Collection and Recovery System for Area 2 and stormwater retention ponds for the entire site. Furthermore, the objectives of this order are to consolidate the requirements of Subtitle D (Title 40 Part 258 of the Code of Federal Regulations) and the requirements of Article 5, Title 23, Division 3, Chapter 15 of the California Code of Regulations into one order.

SITE HISTORY

2. Newby Island has been operated as a solid waste facility since 1930. It was originally reclaimed from tidal marshlands in the late 1800s by constructing a perimeter dike system. Prior to its use as a sanitary landfill, it was operated as an orchard and pasture lands. Placement of refuse was performed from 1930 to 1956 in selected areas in the northern portion of the Island. The site began operating as a sanitary landfill in

1956 (EMCON Associates, 1972).

3. The Board adopted Order No. 82-41, amending Order No. 75-22, on June 16, 1982 which found that all or portions of Area 2 were waters of the United States and wetlands and prohibited filling in Area 2 until the discharger provided appropriate mitigation.

4. On December 15, 1982 the Board adopted Order Nos. 82-63 (an NPDES Permit) and 82-64. Order No. 82-63 allowed the filling of waters of the State contained in Area 2 based upon mitigation acceptable to the Board and compliance with the requirements of Order NO. 82-64 regarding the construction and operation of the landfill. Order No. 82-41 was rescinded by Order No. 82-64 and Order Nos 75-22 and 82-64 were rescinded by the adaption of Order No. 87-152 on November 23, 87.

5. On September 15, 1993 the Board adopted Order No. 93-113 as a general permit implementing the requirements of Subtitle D (Title 40, Code of Federal Regulations [CFR], Parts 257 and 258, " Federal MSW regulations").

SITE DESCRIPTION

6. The Newby Island Sanitary Landfill property is an irregularly-shaped, 342-acre parcel bounded by Coyote Creek on the east and north and by South Mud Slough on the south and west. The current refuse fill elevation is approximately 90 feet above MSL, and the subgrade elevation of refuse cells is approximately -40 MSL (40 feet below MSL). Vegetation at the site is limited mainly to landscaping near structures and grasses and shrubs that have been planted as part of a reseeding and erosion control program.

GEOLOGIC SETTING OF THE SITE

7. Newby Island is within the Coast Range geomorphic province at the southern end of San Francisco Bay. The structurally controlled Santa Clara Valley trends northwest and is bounded on the southwest by the Santa Cruz Mountains, and on the northeast by the Diablo Range. The bed rock core of these mountain ranges is composed of the Jurassic-Cretaceous Franciscan Formation, which consists of various rock types: sandstone, shale, chert, conglomerate, metamorphic rocks, and melange composed of fragmented and sheared franciscan rocks. Undivided Cretaceous sandstone, shale and conglomerate, altered and metamorphosed ultramafic rocks, and younger (Oligocene through Plio-Pleistocene) volcanic and sedimentary bedrock formations flank the Franciscan assemblage. Figure 3, Geologic Map, shows the site in relation to the geologic setting.

8. Newby Island Sanitary Landfill is situated upon a gentle, northwest-sloping, relatively level San Francisco Bay marshlands. Its surface is covered by a dark bluish-gray clay (locally known as a Young Bay Mud) deposited during the Holocene epoch (within the last 11,000 years). The thickness of Younger Bay Mud within Newby Island varies from 3 to 31 feet in thickness, with an apparent thickening west toward the Bay.

9. The geologic units at the site are the basement rock complex believed to consist of the Franciscan Formation, overlain by the Santa Clara Formation, which in turn is overlain by Quaternary age mud and alluvium. The Quaternary age alluvium consists of interbeded continentally derived mud and alluvium that has been designated Older Bay Mud of Late Pleistocene age, overlain by Younger Bay Mud of Holocene age.

10. The Franciscan Formation of Jurassic-Cretaceous age is believed to underlie the site at depths of approximately 3,000 feet. Rock types within the Franciscan Formation in the Bay region consist mainly of sandstone, shale, chert, conglomerate, metamorphic rock, greenstone, and melange (a mixture of sheared and fragmented rocks resulting from tectonic processes).

11. Geologic structures in the region are controlled by a major northwest tending fault system. On the east side of San Francisco Bay are the Hayward fault and Calaveras fault, and on the west side is the San Andres fault. Newby Island is approximately 1.5 and 6 miles southwest of the Hayward fault and Calaveras fault, respectively, and 15 miles northeast of the San Andres fault. These faults are known as right-lateral

faults.

HYDROGEOLOGIC SETTING OF THE SITE

12. Newby Island is at the southern extremity of the Niles Groundwater Subarea, which is part of the extensive Fremont Groundwater Area. The extensive nature of the aquifers in the Nile Subarea east of the site has made it possible to delineate specific aquifers and aquiclude and to correlate them from one well to the next. The major water bearing formations underlying the site are briefly described as follows:

- A perched water table - This type of water is common throughout the site, usually occurring at depths less than 20 feet below the natural ground surface. The perched zone occurs in the low permeability younger bay mud and is characterized by very poor water quality with high chloride, specific conductance and total dissolved solids (TDS).

- The Newark Aquifer - A shallow saline aquifer system, occurs at elevations from 90 to 110 feet below ground level. Water quality within the aquifer is very poor, showing evidence of past saline water intrusion. This aquifer beneath the site is of low yield (less than 5 gallons per minute), of moderate permeability ($5X10^{-4}$) and consists principally of sandy clay within thin interbeds of sand and gravel.

- The Centerville aquifer - The top of the deeper freshwater aquifer lies between 200 to 250 feet beneath the surface. This water bearing zone, Centerville aquifer, is separated from the Newark Aquifer by a thick clay aquiclude which effectively separates the centerville aquifer from saline water contained in the Newark Aquifer. The potable water bearing formation, the Centerville Aquifer, is composed of angular shell fragments and rounded pebble-size gravel with scattered thin calcareous cemented layers. The yield of this zone is in the order of 50 to 100 gallons per minute (gpm).

13. The beneficial uses of Coyote Creek, Mud slough, and South San Francisco Bay are as follows:

a. Wildlife habitat

b. Brackish and salt water marshes
c. Water contact recreation
d. Non-water contact water recreation
e. Commercial and sport fishing
f. Preservation of rare and endangered species
g. Esturaine habitat
h. Fish migration and spawning

14. The present and potential beneficial uses of the deeper groundwater (below elevation-85 feet below MSL) are as follows:
a. Domestic and municipal water supply
b. Industrial process supply
c. Industrial service supply
d. Agricultural supply

15. Runoff within the active portion of the facility is diverted and channeled within a series of drainage ditches and berms to retention ponds. The Board has authorized discharger to pump storm water to an off-site location, provided analyses show that no constituents of concern are present.

WASTES AND THEIR CLASSIFICATION

16. Waste received at Newby Island landfill consists of non hazardous solid wastes and inert wastes as defined by the California Code of Regulations (CCR), Title 23, Chapter 15, Article 2, Sections 2523 and 2524 (23 CCR 2523 and 2524). These wastes are generated from residential, commercial, industrial and agricultural sources. The waste stream consists of approximately 23 percent residential waste, 39 percent commercial waste, 37 percent industrial and agricultural waste, and one percent demolition wastes.

17. No hazardous or radioactive wastes, waste water treatment sludge (bio-solid)-unless conditions of Prohibition No.7 are met, or liquid wastes are received or allowed to enter the site. Potentially or suspected radioactive materials are screened at the gate with scintillometer equipment. The said equipment operates continuously during the hours that the site receives refuse.

18. The site does not receive asbestos waste nor untreated infectious waste. Asbestose is allowed to be disposed of at those sections of the facility which are in compliance with the requirements of Subtitle D.

19. Small dead animals are received and incorporated into the daily waste stream in conformance with permit regulations.

20. Construction and demolition wastes and tires are accepted in conformance with the Solid Waste Facilities Permit (CIWMB, January 26, 1989).

21. The current Solid Waste Facilities Permit (City of San Jose, February 7, 1989) authorizes the facility to receive " an annual average of not more than 3,260 tons of wastes per operating day and not more than 4,000 tons of waste on any one day."

DESIGN & OPERATION PLAN

22. The landfill is situated on a sedimentary unit where its geologic and hydrogeologic characters alone could not prevent impairment of groundwater. Under such circumstances the construction of waste containment cells must be in compliance with the design specifications of Title 23, Chapter 15 and Subtitle D, Federal Code of Regulations. The site does not meet theses requirements because groundwater exists at shallow depth and has the potential to enter the waste. The design is intended to address this condition by including: (1) a groundwater sub-drain to intercept the seepage and any other groundwater on the site and convey it for discharge in a manner consistent with this Order, and (2), by including a composite liner and leachate collection system to assure that wastes are contained within the landfill. Furthermore, to limit the potential for leachate migration into the groundwater and beyond the unit the following minimum design measures for Areas 1 and 2 are required:

A - Existing Leachate Collection and Removal System for Area 1.

Development in Subarea 1 through 8 (see Figure 4, LCRS Plan), include a blanket drain LCRS as described in the PRA report dated October 1, 1986, Leachate collection and Removal System Design. The LCRS includes individual cell drainage through gravel drains, which lead to leachate extraction sumps. The gravel drainage layer is placed on a minimum 0.5 percent subgrade slope to induce migration of fluid toward the leachate collection sumps.

B. Leachate Collection & Removal System for Area 2, Subarea 9.

The design of Subarea 9 will include an integrated Leachate Collection and Recovery System (LCRS). This system will consist of a gravel drainage blanket constructed in the base areas immediately above the composite liner and a network of High Density Polyethylene (HDPE) leachate collection pipelines. The pipe networks will collect and convey the generated leachate toward the designated collection sumps. The LCRS on the sideslope consists of a geocomposite which drains into the bottom LCRS. Leachate will be transported by gravity flow to a temporary collection sump located at the lowest points in the collection system. The LCRS has been designed on the basis of maximum potential leachate generation for the site. Some of the design features of Subarea 9 are as below:

1. Subdrain Collection System Design:

   The principle subdrain collection system will consist of a series of six inch diameter groundwater collection pipes placed in drainage gravel which is in turn placed in a geotxtile-lined trench excavated below subgrade. This subdrain pipe system will be spaced throughout the base area of Subarea 9 and will connect to a single temporary main collector line. The subdrain collection system installed on the sideslopes consists of geocomposite backdrain. This system will consist of a geonet drainage layer placed below the low-permeability soil component of the liner and against the finished subgrade.

2. Liner System Design:

   The composite lining system for Subarea 9 consists of a HDPE flexible membrane liner (FML) over a 2-foot compacted low permeability ($1X10^{-7}$ cm/sec) soil liner. For the bottom liner, an additional 3-foot compacted low permeability ($1X10^{-6}$ cm/sec) underlies the 2-foot soil liner.

MONITORING PROGRAM

23. The discharger shall analyze for the parameters as presented in Table 2 of the Discharge Monitoring Program for the Newby Island Sanitary Landfill. The discharger must also be incompliance with the requirements of Sections No's. 9, 10, 11, 12 and 13 of Order No. 93-113.

SLOPE STABILITY

24. Newby Island is located approximately 5.0 to 10.0 miles southwest of the Hayward and Calaveras faults, respectively, and 15.0 miles northeast of the San Andres fault. The Sand Andres fault is the dominant active fault in the San Franciscan Bay area. The San Andres fault was the source of large magnitude earthquakes during the past years that were accompanied with surface ground rupture. According to Purcell, Rhoades & Associates "Earthquakes generated along the San Andres, Hayward and Calaveras faults having magnitudes from 6.0 to 8.5, and maximum ground surface accelerations approximately 0.4g are possible within the life span of the project. The potential for surface rupture and displacement within the site is believed to be low".

25. As part of the geotechnical evaluation and design, the discharger evaluated the static and psuedostatic (seismic) stability of the subject landfill. For the static condition, the Spencer's method combined with the computer program TSLOPE was used. For the dynamic conditions, the pseudo-static method; and Equivalent Acceleration Method were used.

    The PRA Group, Inc. in their November 1, 1993 submittal, Revised Appendix D, included information related to the stability of interim refuse slope and final refuse slope under static and dynamic conditions. According to the submittal the Factor of safety for the critical failure surface of the currently proposed composite cap was found to be 3.3 under static and 2.1 under the pseudostatic conditions. Based on the results of the analysis, the interim refuse slopes and the currently proposed composite cap at Newby Island Sanitary Landfill are considered to be stable according to the requirements of 23 CCR 2547 for Class III landfills.

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26. Sanitary landfills could potentially impact groundwater if not properly designed and operated. Corrosiveness and hardness of the groundwater may result if the products of the decomposed refuse come in contact with the groundwater. Groundwater can also be affected by water that percolates through waste materials and extracts or dissolves substances from it and carries them into the groundwater.

27. The preceding impacts are mitigated or avoided by design measures to control erosion and assure containment of waste and leachate through the use of composite liners and leachate collection and removal systems.

28. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) amended on October 21, 1992. This Order implements the water quality objectives stated in that plan and its subsequent amendments.

29. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

30. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the discharger, its agents, successors and assigns may discharge waste at the Newby Island Sanitary landfill providing compliance is maintained with regulations adopted under Division 7 of the California Water Code and with the following:

A. PROHIBITIONS

1. The disposal of waste shall not create a pollution or nuisance as defined in Section 13050(1) and (m) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.

3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.

4. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or of the United States.

5. Leachate shall not be introduced to non-composite lined units.

6. Hazardous and designated wastes as defined in Sections 2521 and 2522 of Chapter 15, shall not be deposited or stored at this site.

7. High moisture content wastes (including restaurant grease) containing less than 50% solids, **shall not** be deposited or stored at this site except as provided in an approved sludge management plan. Wastes containing at least 50% solids and defined by Section 2523 of Chapter 15 as Non-hazardous Solid Waste, may be deposited at this site.

8. The discharge of wastes which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the unit, which could produce chemical reactions that create heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

   a. require a higher level of containment than provided by the unit,

   b. are "restricted hazardous wastes", or

   c. impair the integrity of the containment structures.

9. Construction of the containment features of all future waste management units must be in compliance with this Order, Chapter 15 and Subtitle D. Wastes shall not be placed in any area of a new unit until the Executive Officer has received and approved report(s) certified by a California registered civil engineer or certified engineering geologist in accordance with Provision C.2 of this Order.

10. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

    a. <u>Surface Waters</u>

1. Floating, suspended, or deposited macroscopic particulate matter or foam.

2. Bottom deposits or aquatic growth.

3. Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

The groundwater shall not be degraded as a result of the waste disposal operation.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.

2. Water used during disposal operations shall be limited to dust control, fire suppression, watering of vegetation, and earth fill moisture conditioning. Liquid acceptance under the above mentioned conditions must be in compliance with Section 6 (a) and (b) of General Amendment of WDR Order No. 93-113.

3. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100-year 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years. The discharger must also comply with §3 of General Amendment of Waste Discharge Requirements Order No. 93-113.

4. Hazardous wastes shall not be disposed of at this facility but Designated, asbestos, non-hazardous, inert and Infectious wastes may be allowed to be disposed of at the facility provided that all Federal regulations, Subtitle D, and provisions of the California Integrated

Waste Management Board, California Department of Toxic Substance Control, Local Health Agencies and Local Land Use Permit requirements are complied with.

5. Permanent leachate control facilities shall be constructed. Temporary leachate collection sumps may be used to convey leachate to the permanent leachate control facilities. Measures shall be taken to ensure that the leachate extraction system for Area 1 will remain operational permanently. All leachate collection and conveyance facilities shall be constructed in compliance with the requirements of Subtitle D and to ensure free flow of leachate through the conveyance system.

6. All conveyance control facilities and hydraulic structures shall be constructed to ensure normal flow of liquid and to prevent hydraulic pressure buildup within the pipeline. All hydraulic structures shall be constructed according to the design and construction specifications as well as in accordance with Section 2545 of Chapter 15, Subtitle D and shall be completed prior to the placement of any refuse in the specified fill area.

7. The Area 1 leachate collection and removal system shall be maintained and operated to prevent the buildup of hydraulic head in the system. This system shall be inspected monthly, and any accumulated fluid shall be removed.

8. A minimum of five foot separation between the highest anticipated elevation of underlying groundwater and the waste shall be kept during the life of the landfill. The permeability of the upper two feet of separation layer must not be greater than $1X10^{-7}$ cm/sec. The permeability of the lower three feet of the separation layer must not be greater than $1X10^{-6}$ cm/sec.

9. All side slopes (Dipping inward) must have a 12 oz Geotextile, 2 feet of compacted clay with a permeability of less than $1X10^{-7}$ cm/sec, 60 Mil HDPE Geomembrane and a toe or interceptor drain.

10. All geotextile and geomembrane used in construction of the cells must meet the requirements of subtitle D.

11. A geologic map of the base of the excavation shall be prepared for each waste management unit as it is developed. Pathways which might allow leachate to migrate

into deeper geologic strata shall be clearly marked.

12. The discharger shall assure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

13. The leachate collection and removal system (LCRS) shall be maintained and operated to prevent the buildup of hydraulic head on the bottom of the landfill. The maximum permissible leachate level buildup above the liner must not be greater than one foot (0.3048 M). The LCRS shall be inspected monthly or more frequently as necessary, and any accumulated fluid shall be removed.

14. As portions of the Class III landfill are closed, the exterior surfaces shall be graded to a minimum slope of 3 percent in order to promote lateral runoff of precipitation. In addition, all completed disposal areas shall be covered with a minimum of 4 feet of cover and in accordance with other applicable requirements as described in Article 8 of Chapter 15 and Subtitle D.

15. To ensure containment; the waste unit must meet or exceed with the following specifications:

Bottom Liner System

- A minimum three-feet thick low permeability compacted subgrade $1X10^{-6}$ cm/sec.
- A minimum two-foot thick low permeability clay liner $1X10^{-7}$ cm/sec.
- A 60 mil HDPE flexible membrane liner.
- A sixteen-ounce geotextile cushion fabric.
- A one foot-thick layer of LCRS gravel.
- An eight-ounce geotextile filter fabric.
- A one-foot thick protective soil cover.

Side slope Liner System

- A drainage net with 8-ounce geotextile bonded on both sides and place over the finished subgrade.
- A minimum 2-foot low-permeable soil liner with a

permeability of 1X10-7 cm/sec placed over the drainage net.

- A One-sided textured synthetic liner (60 mil HDPE) placed directly over the low-permeability liner with the textured side down.

- A drainage net (geocomposite) with 8-ounce geotextile bonded on both sides and placed over the synthetic liner.

16. The landfill shall be designed and constructed in conformance with the requirements of Subtitle D, Chapter 15 and this Order. The final design plans shall be submitted to the Executive Officer for review and approval and shall include, but not be limited to, the engineered design plans for the fill cell, the construction specifications, a construction quality assurance (QA/QC) plan, and a revised discharge monitoring program. The final construction report shall include, but not be limited to, construction record drawings (as-built drawings) for the waste management unit, a QA/QC report with a written summary of the QA/QC program and all test results and analyses, and a verification.

17. The discharger shall operate the waste management facility so as to prevent a statistically significant increase to exist between water quality at the point of compliance as provided in Section 2550.5, Article 5 of Chapter 15 and Water Quality Protection Standards (WQPS) to be established. The discharger shall establish these WQPS and a statistical methodology to evaluate water quality monitoring data according to the requirements of this Order and Article 5 of Chapter 15 and based on Section 8 of Order No. 93-113 by August 9, 1994.

18. In the event of a release of a constituent of concern beyond the Point of Compliance, the site will begin a Compliance Period pursuant to Section 2550.6(a). During the Compliance Period, the discharger shall perform an Evaluation Monitoring Program and a Corrective Action Program.

19. The discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive Officer.

20. Interim cover shall be maintained over all waste, at all times, except for the active face area of the disposal as approved by the California Integrated Waste Management Board.

21. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone in accordance with applicable regulatory requirements.

22. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations during the active life and post-closure maintenance period.

23. The discharger shall maintain all devices or designed features, installed in accordance with this Order such that they continue to operate as intended without interruption as provided for by the performance standards adopted by the California Integrated Waste Management Board.

24. The discharger shall provide a minimum of two permanent surveyed monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. These monuments shall be installed by a licensed land surveyor or registered civil engineer.

25. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure which threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

26. The discharger shall notify the Regional Board at least 180 days prior to beginning any intermediate or final closure activities. This notice shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.

27. The discharger shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has

been closed according to the requirements of this Order, Subtitle D and Chapter 15. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

28. The discharger shall comply with all applicable provisions of Chapter 15 and Subtitle D of the Resource Conservation and Recovery Act (Title 40 Part 258, Code of Federal Regulations) that are not specifically referred to in this Order.

29. The discharger must construct retention pond(s) to have sufficient capacity to handel a 100 year 24 hour storm event in addition to any groundwater seepage and it must also be incompliance with the requirements of Subtitle D and Chapter 15. The retention ponds must be equipped with an emergency spillway.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.

2. Prior to commencement of filling of a specific area of the site the discharger shall submit a report indicating compliance with all Prohibitions, Specifications, and Provisions of this Order. This shall include as-built construction diagrams. Filling of the area described in the report shall not commence until Regional Board staff approves this report based on its demonstration of compliance with this Order.

   REPORT DUE DATE: 15 BUSINESS DAYS PRIOR TO FILL COMMENCEMENT

3. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to

the Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

4. The discharger shall submit to this Board and to the California Integrated Waste Management Board, evidence of an **Irrevocable Closure Fund** or provide other means to ensure closure and post-closure maintenance of the waste management unit, pursuant to Section 2580(f) of Chapter 15. The Closure Fund must provide sufficient funds to properly close the landfill and for the post-closure monitoring, leachate management, and maintenance of the site. For the purposes of planning the amount of the fund, the discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.

REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

5. The discharger shall submit **Final Construction Details** acceptable to the Executive Officer pursuant to the specifications of this Order. The proposal should provide work plans for development of the various components of the landfill, including detailed specifications for construction of composite liners and leachate collection and removal systems and should include Quality Assurance & Quality Control Procedures, (QA/QC), for all aspects of construction and installation. The work plans for construction of the liners and the leachate collection and recovery system should include detailed specifications regarding the sequence of construction of the various segments of the project, and provide sufficient detail about how the various cells and modules of the landfill areas will interface structurally. The Final Construction Details must be determined to be consistent with this Order by the Executive Officer prior to acceptance of waste.

6. The Closure and Post Closure Plan for the facility shall be in compliance with the requirements of the provision found in Section 14 of General permit No. 93-113.

7. The discharger shall submit an updated geologic map as described in Specification B.16 as new waste management units are constructed. Prior to the placement of refuse

in the unit, a detailed written description of the mapping procedure must be submitted and approved by the Executive Officer. The discharger shall evaluate each shear zones and other macro or micro geologic deformations.

REPORT DUE DATE: 15 BUSINESS DAYS AFTER THE SUBGRADE PREPARATION IS COMPLETED

8. The discharger shall submit a **Contingency Plan** to be instituted in the event of a leak or spill from the leachate facilities. The discharger shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.

   REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

9. The discharger shall file with the Regional Board Discharge Monitoring Reports prepared under the supervision of a registered civil engineer or registered geologist performed according to any **Discharge Monitoring Program** issued by the Executive Officer.

10. The discharger shall make all the monitoring parameters incompliance with the requirements of Sections 9, 10, 11 and 12 of General Amendment of Waste Discharge Requirements Order No. 93-113.

11. The reports pursuant to these Provisions shall be prepared under the supervision of a registered engineer or certified engineering geologist.

12. The discharger shall remove and relocate any wastes which are discharged after the date of adoption of this Order in violation of these requirements.

13. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of the waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.

14. The discharger shall immediately notify the Board of any

flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

NOTIFICATION: IMMEDIATELY
REPORT DUE DATE: WITHIN 7 DAYS AFTER THE INCIDENT

15. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

16. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which may arise in the future as result of this waste discharge or related operations.

17. The discharger shall permit the Board or its authorized representative, upon presentation of credentials:

    a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.

    b. Access to copy any records required to be kept under the terms and conditions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order or by any other California State Agency.

    d. Sampling of any discharge or ground water governed by this Order.

18. This Order updates Order No. 87-152 and incorporates Order No. 93-113.

19. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

20. This Order is subject to Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

21. Copies of all correspondence, reports, and documents

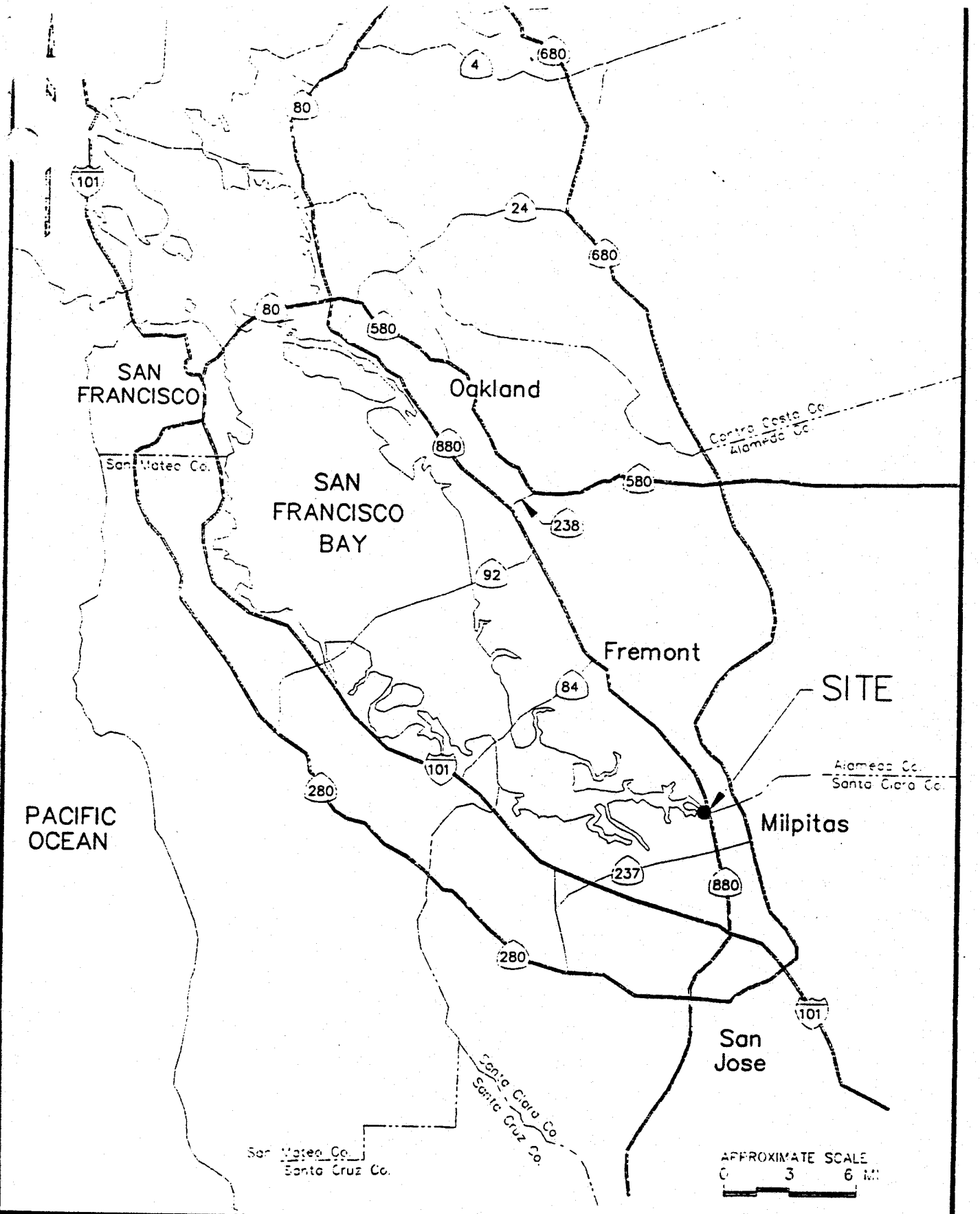
pertaining to compliance with the Prohibitions, Specifications and Provisions of this Order, shall also be provided to Santa Clara Water District.

22. The discharger must submit an acceptable and comprehensive leachate management plan addressing leachate generation, extraction, treatment, conveyance and disposal. This technical report must be submitted no later than April 1, 1994.

I, Loretta K. Barsamian Assistant Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 16, 1994.

Loretta K. Barsamian
Acting Executive Officer

Attachments:
1. Figures:
   1. Site Location Map
   2. Site Vicinity Plan
   3. Geologic map
   4. LCRS Plan
2. Discharge Monitoring Program



DATE	06/13/93
JOB NO.	6111-06
DWG NO.	NEC005
DRAWN	I. SCHAAR
CHKD	S HUVANE
APPD	M WANTA

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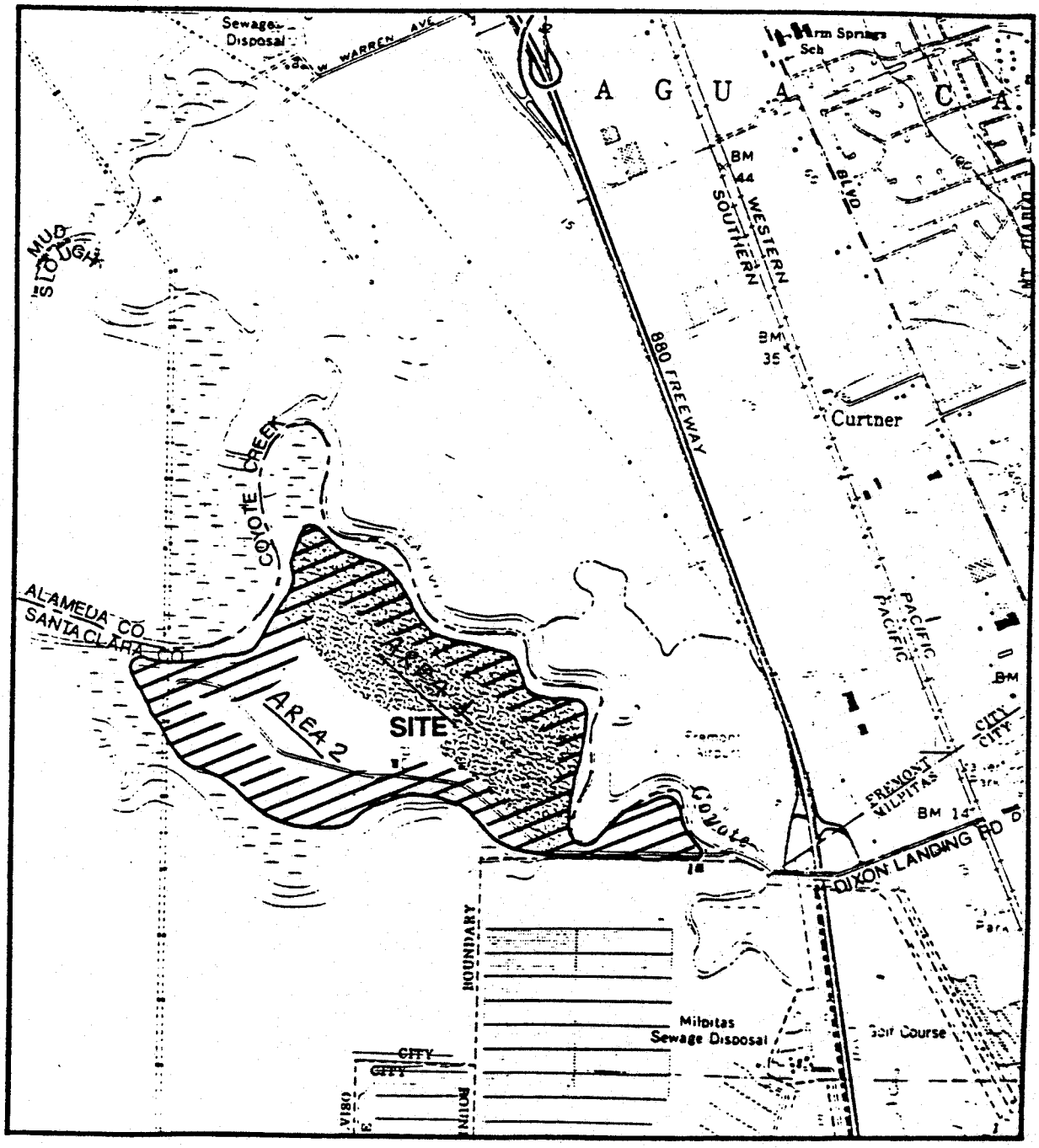
CONSULTING ENGINEERS

SITE LOCATION MAP

NEWBY ISLAND SANITARY LANDFILL, SAN JOSE, CALIFORNIA
INTERNATIONAL DISPOSAL CORPORATION

FIGURE NO. 1

REV NO.



APPROXIMATE SCALE

0 2000 4000 ft

BASE MAP TAKEN FROM USGS MILPITAS, CALIFORNIA, 7.5 MINUTE QUADRANGLE. (1980)

DATE	08/13/93
JOB NO.	G111-06
DWG NO.	NE6006
DRAWN	L SCHAAR
CHK'D	S HUVANE
APP'D	M WANTA

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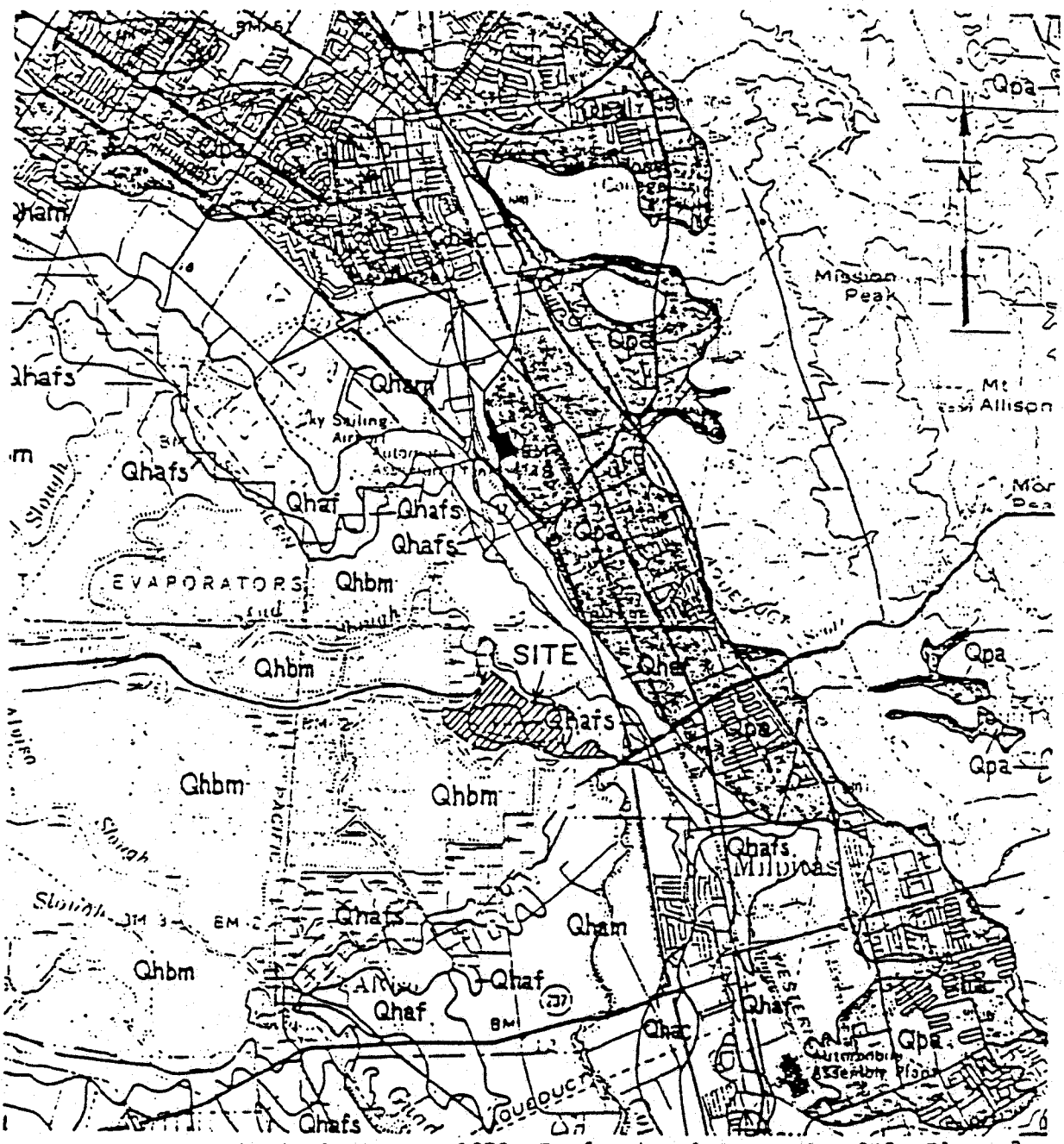
SITE VICINITY MAP

NEWBY ISLAND SANITARY LANDFILL, SAN JOSE, CALIFORNIA

INTERNATIONAL DISPOSAL CORPORATION

FIGURE NO. 2



Source: U.S. Geological Survey, 1979, Professional Paper No. 943, Plate 3.

SCALE

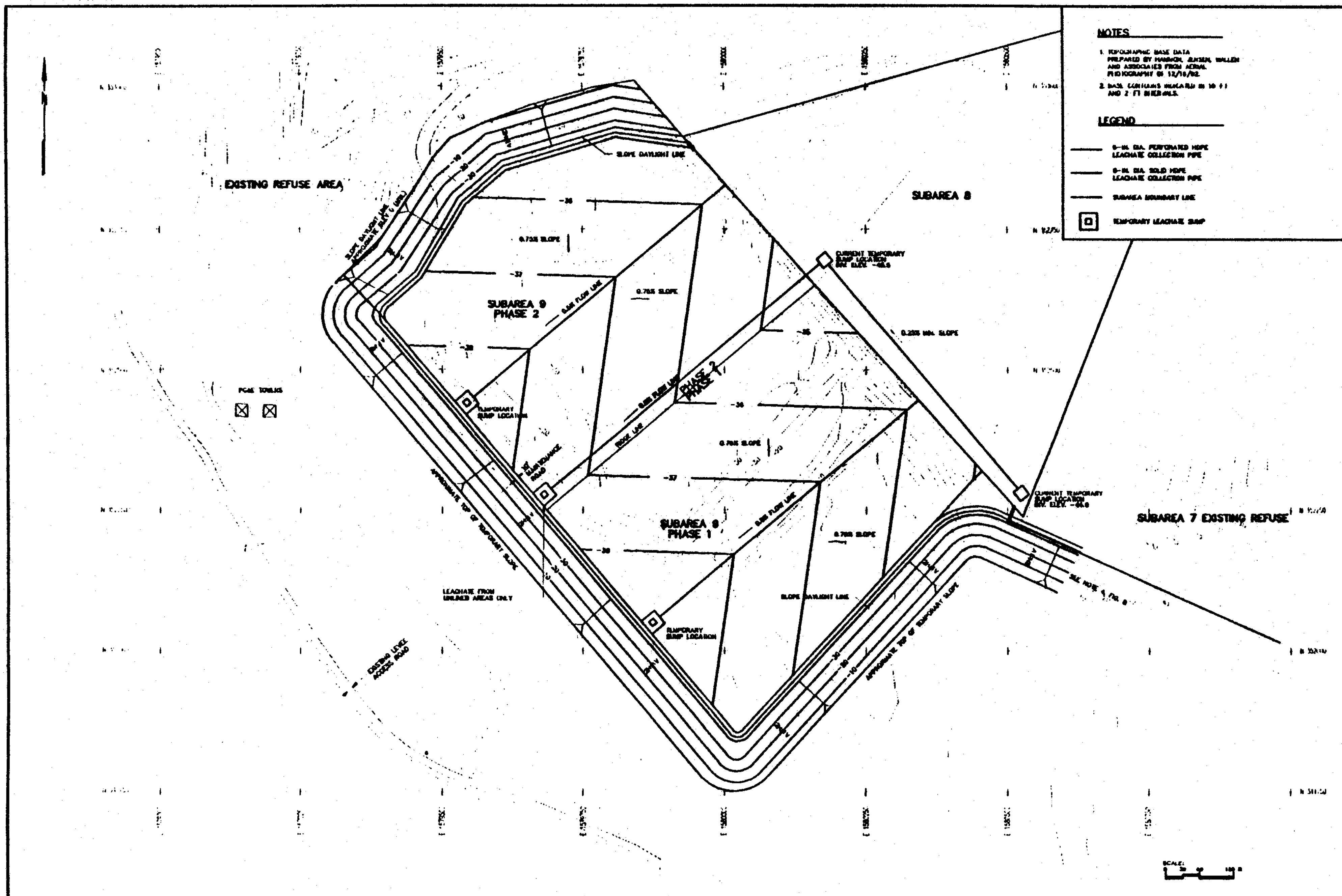
2 1 0 2

MILES

EXPLANATION

Qhac - Coarse-grained Alluvium
Qhaf - Fine-grained Alluvium
Qhafs - Fine-grained Salt-affected Alluvium
Qhbm - Bay Mud
Qpa - Late Pleistocene Alluvium

FIGURE	PURCELL, RHOADES & ASSOCIATES Foundation Engineering • Soil Engineering • Geology
FIGURE 3	GEOLOGICAL MAP Newby Island Sanitary Landfill
DATE 7-1-87	DRAWN BY CJS / CHECKED BY BJM/DJR
SCALE As shown	W.O. 2469-01



NOTES

1. TOPOGRAPHIC BASE DATA PREPARED BY HANNON, JENSEN, WALLEN AND ASSOCIATES FROM AERIAL PHOTOGRAPHY OF 12/10/92.
2. BASE CONTOURS INDICATED IN 10 FT AND 2 FT INTERVALS.

LEGEND

- 6-IN. DIA. PERFORATED HDPE LEACHATE COLLECTION PIPE
- 6-IN. DIA. SOLID HDPE LEACHATE COLLECTION PIPE
- SUBAREA BOUNDARY LINE
- TEMPORARY LEACHATE SUMP

NO.	DATE	ZONE	DESCRIPTION	DRAWN	APPROVED

REVISIONS

PROFESSIONAL SEAL

The PRA Group, Inc

LCRS PLAN
AREA 2, SUBAREA 9

FIGURE NO. 4

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

INTERNATIONAL DISPOSAL CORPORATION AND
BROWNING-FERRIS INDUSTRIES
NEWBY ISLAND CLASS III SOLD WASTE DISPOSAL SITE

SANTA CLARA COUNTY

ORDER NO. 94-025

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Provision C.10 of Regional Board Order No. 94-025

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the discharger in complying with the requirements of Article 5, Chapter 15 as revised July 1, 1991.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater which pass over, through, or under waste materials or contaminated soils. In this case, the groundwater beneath and adjacent to the landfill areas and the surface runoff from the site are considered receiving waters.

3. Standard observations refer to:

a. Receiving Waters

1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
2) Discoloration and turbidity: description of color, source, and size of affected area.
3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
4) Evidence of beneficial use: presence of water associated wildlife.
5) Flow rate.
6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit

1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on a map.)
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion and/or daylighted refuse.

c. The waste management unit

1) Evidence of ponded water at any point on the waste management facility.
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source
3) Evidence of erosion and/or daylighted refuse.
4) Standard Analysis (SA) and measurements are listed on Table 2 (attached).

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Section 2550.7(b)
2. Surface water per Section 2550.7(c) and per the general requirements specified in Section 2550.7(e) of Article 5, Chapter 15 and

3. Vadose zone per Section 2550.7(d).

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.

5. Calculation of results.

6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written detection monitoring reports shall be filed by the 15th day of the month following the report period. In addition, an annual report shall be filed as indicated in F.3 below. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation

of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge, the report is true, complete, and correct.

b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations. A statistical evaluation of the water quality monitoring data for all groundwater compliance points.

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field PH, temperature, and conductivity during purging, calibration of the field equipment, results of the PH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other that EPA approved methods or Standard Methods are used, the exact methodology must be

submitted for review and approval by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; and explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

e. An evaluation of the effectiveness of the leachate monitoring or control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

f. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

g. The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations.

2. CONTINGENCY REPORTING

a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:

1) a map showing the location(s) of discharge;
2) approximate flow rate;
3) nature of effects; i.e., all pertinent observations and analyses; and
4) corrective measures underway or proposed.

b. A report shall be made in writing to the Board within seven days of determining that a statistically significant increase occurred between a down gradient sample and a WQPS. Notification shall indicate what WQPS(s) has/have been exceeded. The discharger shall immediately resample at the compliance point where this

difference has been found and reanalyze.

c. If resampling and analysis confirms the earlier finding of a statistically significant increase between monitoring results and WQPS(s), the discharger must submit to the Board an amended Report of Waste Discharge as specified in Section 2550.8(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 2550.9 of Chapter 15.

d. Within 180 days of determining statistically significant evidence of a release, submit to the regional board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 2550.10. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. REPORTING

By January 31 of each year, the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 5-1/4" computer data disk, MS-DOS ASCII format, tabulating the year's data.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

c. A map showing the area, if any, in which filling has been completed during the previous calendar year.

d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater

e. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

4. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

PART B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. WASTE MONITORING - Report Quarterly

1. Record the total volume and weight of refuse in cubic yards and tons disposed of at the site during each month. Show locations and dimensions on a sketch or map.

2. Record a description of waste stream to include percentage of waste type, i.e., Residential, Commercial, Industrial or Construction debris.

3. Record location and aerial extent of disposal of each waste type.

B. ON-SITE OBSERVATIONS - Report Quarterly

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Weekly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the quarterly monitoring report.

C. GROUNDWATER AND SURFACE WATER MONITORING - Reporting Semi-Annually

Groundwater and surface water shall be monitored as outlined below and on Table 2 (Attached) and shown on Figure 1 (Attached). In addition, surface water shall be monitored in accordance with the National Pollutant Discharge Elimination System General Permit). The groundwater parameters listed in Table 2 are to be monitored semi-annually for a period of not less than one year. Subsequent to this one year monitoring period, the discharger shall propose for acceptance by the Board a selected subset of the Table 2 parameters as constituents of concern (COC) per Section 2550.3 of Chapter 15, and a selected subset of the parameters in the COC list as detection monitoring parameters per Section 2550.8 (e) of Chapter 15. The Criteria for selection of the detection monitoring parameters are detectability, persistence, existence in the site's leachate, mobility, and contrast to surrounding groundwater.

TABLE 1

Monitoring Points and Background Monitoring Points for Each Monitored Medium

MONITORING MEDIA	**Compliance Point**	**Background Point**
Surface Water	SW-1 (Pond#1), SW-2, SW-3	
Surface Storm Water Ponds	Pond #1	
Groundwater	MW-1B, MW-2, MW-3, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9A, MW-10, E-SW, MW-DE, W-SW, W-DW	MW-11
Leachate	GR-1, GR-2A, GR-3B, GR-4A, GR-5, GR-6A, GR-7	
Leachate Collection Sump	L8-1, L8-2, L7-1, L4-1	

D. FACILITIES MONITORING

The discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report quarterly. The facilities to be monitored shall include, but not be limited to:

a. Leachate collection and removal systems
b. Surface water impoundment
c. Vadose zone and subdrain collection systems
d. Perimeter diversion channels
e. Leachate management facilities and secondary containment.

I, Loretta K. Barsamian Acting Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 94-025

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Loretta K. Barsamian
Acting Executive Officer

Date Ordered: February 16, 1994

Attachments:
Figure 1 - Monitoring Point Location Map
Table 2 - Schedule for Sampling, Measurement, and Analysis

NOTES

1. TOPOGRAPHIC BASE MAP PREPARED BY HAMMON JENSEN WALLEN AND ASSOCIATES FROM AERIAL PHOTOGRAPHY OF MAY 1, 1992.
2. ELEVATION CONTOURS INDICATED IN 10-FT INTERVALS.

EXPLANATION

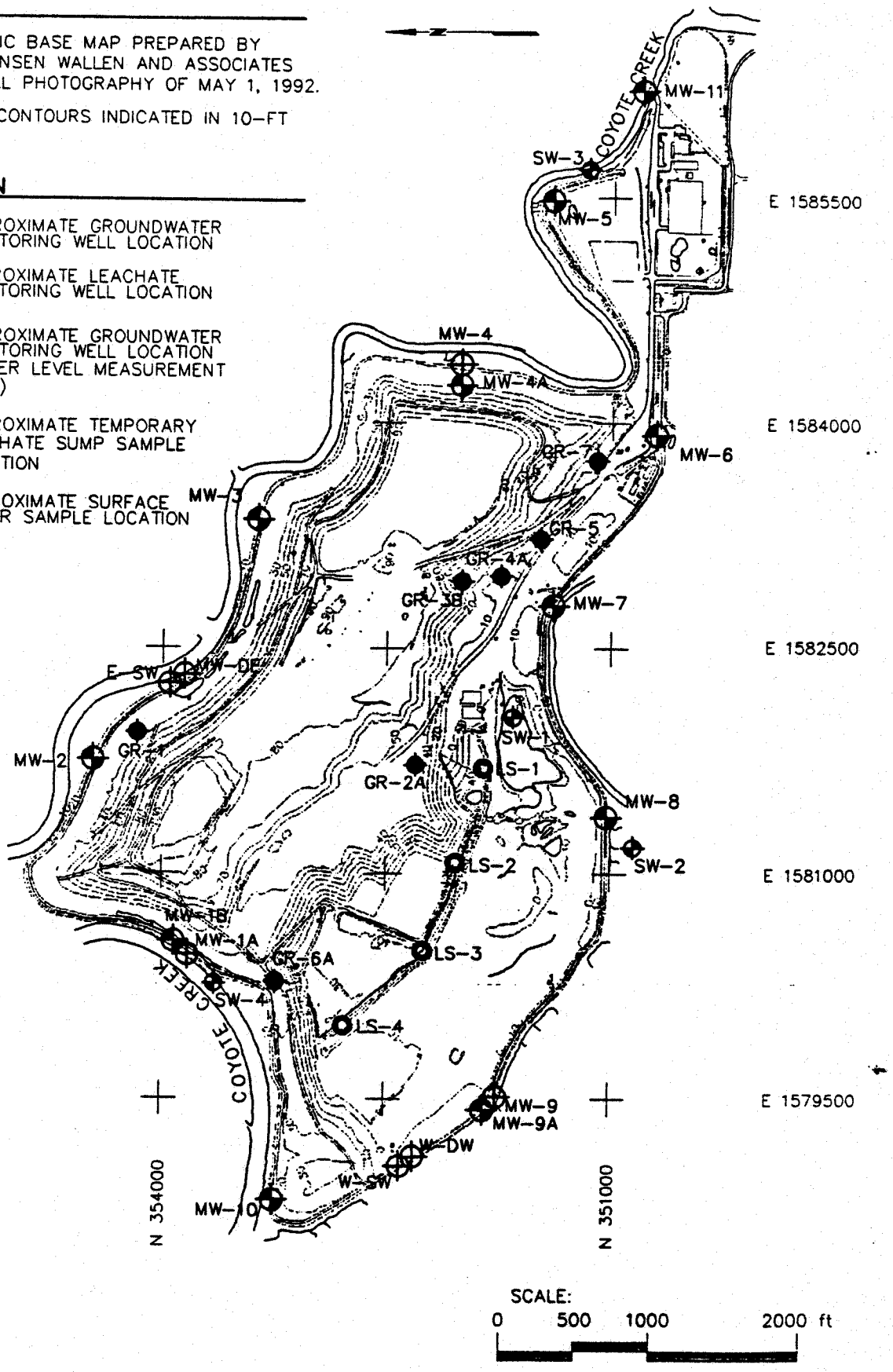
MW-11 — APPROXIMATE GROUNDWATER MONITORING WELL LOCATION

GR-7 — APPROXIMATE LEACHATE MONITORING WELL LOCATION

MW-4 — APPROXIMATE GROUNDWATER MONITORING WELL LOCATION (WATER LEVEL MEASUREMENT ONLY)

LS-4 — APPROXIMATE TEMPORARY LEACHATE SUMP SAMPLE LOCATION

SW-4 — APPROXIMATE SURFACE WATER SAMPLE LOCATION



SCALE: 0 500 1000 2000 ft

NOTES:
1) MW-11 IS AN UPGRADIENT WELL. ALL OTHER WELLS ARE DOWNGRADIENT.
2) THE POND SAMPLE IS SW-1.

DATE	10/12/93
JOB NO.	G111-07
DWG NO.	NE7015
DRAWN	M MURPHY
CHK'D	M MURPHY
APP'D	M WANTA

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MONITORING POINT LOCATION MAP

NEWBY ISLAND SANITARY LANDFILL
INTERNATIONAL DISPOSAL CORPORATION

FIGURE NO. 1

REV NO

Q:\NEWBY\G111-07\NE7015

Table 2 - Discharge Monitoring Plan, List of Analytical Parameters

Parameters	Method (USEPA)	Frequency	Reference
leachate Level Measurements	Field	Quarterly	1
Water level Measurements	Field	Semi-annual	1
Temperature Measurements	Field	Semi-annual	1
Alkalinity, bicarbonate	310.1	Semi-annual(d)	2
Alkalinity, hydroxide	310.1	Semi-annual	2
Chemical Oxygen Demand	410.2	Semi-annual	2
Chloride	9252	Semi-annual	3
Nitrate Nitrogen	9200	Semi-annual(d)(c)	3
Total Kjeldahl Nitrogen	351.4	Semi-annual(d)	2
Total Organic Carbon	415.1	Semi-annual	2
Total Phenols	9065	Semi-annual	3
Total Dissolved Solids	160.2	Semi-annual	2
Electrical Conductivity	9050	Semi-annual	3
Total Suspended Solids	160.2	Semi-annual(c)	2
Turbidity	Field	Semi-annual(c)(b)	1
Volatile Organic Compounds	8260	Semi-annual(b)	3
Volatile Organic Compounds	8240/8260	Annually(b)(d)	3
Semi-volatile Organic Compounds	8270	Once in 5yr(b)(d)	3
Organochlorine Pesticides & PCBs	8080	Once in 5yr(b)(d)	3
Organophosphorus Compounds	8141	Once in 5yr (b)(d)	3

Chlorinated Herbicides	8151	Once in 5yr (b)(d)	
Chlorophenoxy Herbicides	8150	Once in 5yr(b)(d)	3
Antimony	7041	Semi-annual(d)(b)	3
Arsenic	7061	Semi-annual(d)	3
Barium	6010	Semi-annual(d)(b)	3
Beryllium	6010	Semi-annual(d)(b)	3
Cobalt	6010	Semi-annual(d)(b)	3
Cadmium	7131	Semi-annual(d)	3
Total Chromium	6010	Semi-annual(d)	3
Copper	6010	Semi-annual(d)	3
Lead	7421	Semi-annual(d)	3
Nickel	7520	Semi-annual(d)	3
Selenium	7741	Semi-annual(d)	3
Silver	6010	Semi-annual(d)	3
Tin	6010	Semi-annual(d)	3
Vanadium	6010	Semi-annual (d)	3
Zinc	6010	Semi-annual (d)	3
Mercury	7471	Semi-annual (d)	3
Thallium	7841	Semi-annual (d)	3

Cyanide	9010	Semi-annual (d)	3
Sulfide	9030	Semi-annual (d)	3
Iron	6010	Semi-annual	3
pH	9040	Semi-annual	3
Fish bioassay (96 hour acute toxicity % of survival)	NA (4)	Prior to discharge	4

1. Not Applicable
2. Methods for Chemical Analysis of Water and Wastes, EPA600/4/79/029, revised March 1983
3. EPA SW-846
4. Methods for measuring the Acute Toxicity of Effluent to Fresh Water and Marine Organisms: EPA 600/4-85/013, April 1985, 3rd Edition.

Frequency and Sample Type:
(a) monthly for first year, quarterly thereafter
(b) groundwater samples only
(c) surface water samples only
(d) constituents of concern